

CLMPTO 09/28/04 JW

Amend Claims 15,

Claim 1 (original) A relay apparatus comprising:
packet receiving unit for receiving an input packet;
data length detecting unit for detecting the data length of the packet received by the
receiving unit;
time interval detecting unit for detecting the communication time interval of the packet
received by said packet receiving unit; and
band setting unit for setting the communication band of a channel for sending out the
packet received by said packet receiving unit based on the data length detected by said data
length detecting unit and the communication time interval detected by said time interval
detecting unit.

Claim 2 (original) The relay apparatus according to claim 1, wherein said band setting
unit calculates said communication band by dividing the total value of said data lengths for a
predetermined number of packets by the total value of said communication time intervals for
them.

Claim 3 (original) The relay apparatus according to claim 1, wherein said band setting
unit calculates the communication band by multiplying the total value of the data lengths for the
predetermined number of packets divided by the total value of communication time intervals for
them by a predetermined value of more than 1.

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Claim 4 (original) The relay apparatus according to claim 1, wherein a first packet and a second packet corresponding to high and low service qualities respectively are mingled in the packets received by said packet receiving unit, and said band setting unit sets the communication band based on the data length and the communication time interval corresponding to the first packet requiring a high service quality.

Claim 5 (original) The relay apparatus according to claim 1, wherein a first packet having strict requirement for real time and a second packet having less strict requirement for real time are mingled in the packets received by said packet receiving unit, and said band setting unit sets the communication band based on the data length and the communication time interval corresponding to the first packet.

Claim 6 (original) The relay apparatus according to claim 4, wherein the first packet is an IP packet conforming with the real time transport protocol.

Claim 7 (original) The relay apparatus according to claim 5, wherein said data length detecting unit detects the data length based on the total length contained in an IP header of the IP packet, and said time interval detecting unit detects the communication time interval based on a time stamp contained in a real time transport protocol message of the IP packet.

Claim 8 (original) The relay apparatus according to claim 4, further comprising said segmentation unit for segmenting the first and second packets received by said packet receiving unit into the ATM cells.

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ATM output control unit for outputting the ATM cells segmented by said cell segmentation unit to an ATM connection as the channel, and

switch control unit for controlling said ATM output control unit to output preferentially the ATM cells corresponding to the first packet, when the ATM cells corresponding to the first and second packets are mingled and input into said ATM output control unit.

Claim 9 (original) The relay apparatus according to claim 8, wherein said ATM connection has a service category set in QPS, and said switch control unit has a communication rule corresponding to the ATM connection set by said band setting unit.

Claim 10 (original) The relay apparatus according to claim 8, wherein said ATM connection has a service category set in VBR, and said switch control unit sets an average cell rate corresponding to the ATM connection by said band setting unit.

Claim 11 (original) The relay apparatus according to claim 8, wherein said band setting unit respectively sets the communication band at predetermined timings after the virtual connection is set as the channel.

Claim 12 (original) The relay apparatus according to claim 8, wherein said band setting unit sets the communication band, when a permanent virtual connection is set as the channel.

Claim 13 (original) The relay apparatus according to claim 8, wherein said band setting unit sets the communication band, when a switch type virtual connection is set as the channel.

Claim 14 (original) The relay apparatus according to claim 8, wherein said band setting unit sets the communication band when a call setup is made in accordance with an upper-level layer protocol that is higher than a hierarchy corresponding to the packet, after the virtual connection is set as the channel.

Claim 15 (currently amended) A relay apparatus for use in a network for transmitting variable length data using a fixed length packet, wherein the communication of a first IP packet having a strict requirement for real time, and the communication of a second IP packet having a less strict requirement for real time are both allocated to a communication band, the same communication using a service category capable of ensuring the minimum rate, the communication band being allocated based on a data length and a communication time interval corresponding to the first packet.

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